

Living Resources

Fisheries

The streams and rivers that drain into the Chesapeake Bay support many species of fish harvested for both food and profit. Substantial commercial fishing efforts take place in the Nanticoke River, with American shad, blueback herring, alewife, white catfish, channel catfish, striped bass, and white perch representing the highest percentage of the catch. Despite restrictions, some species have declined. A combination of habitat loss, water-quality degradation, and overfishing has contributed to this decline.

The Nanticoke River was once the third most productive tributary for American shad in the entire Chesapeake drainage. Near the turn of the century, commercial landings in the Delaware portion of the Nanticoke exceeded 200,000 lbs. American shad have suffered a tremendous decline since then. A moratorium on commercial fishing for American shad was adopted in 1980 for Maryland waters, in 1993 for Virginia waters, and in 2000 for Delaware waters, including recreational fishing for shad, with the exception of catch and release. A shad grow

out facility is in operation at the NRG Vienna Power Plant on the Lower Nanticoke in Maryland and another shad hatchery is under construction in Delaware's Nanticoke Wildlife Area, with an expected opening by spring of 2005. Since the year 2000, both American and Hickory shad have been stocked in the main stem of the Nanticoke and some of its tributaries. The local environmental organizations that you can read about near the end of this document are all working toward restoration of the American shad, once central to the culture and the economy of this area. The alewife and blueback herring, which use this drainage for spawning and nursery habitat, have also declined. It is the hope of state agencies and local nonprofit environmental organizations to one day have fish ladders installed in the Nanticoke watershed for both shad and herring and to see this great fishery return.

Several rivers in this Basin have been dammed to create ponds, which in turn impede *anadromous species* (fish that spend part of their life in saltwater and part in freshwater) such as alewife, blueback herring, and American shad, from reaching historic spawning areas. Below is a list of tributaries that drain into the Chesapeake Bay, and Delaware ponds that potentially impede migration.

Impeded Waterways

- ◆ **Nanticoke River**
Collins, Concord (Fleetwood), Craigs, Williams (Hearns)
- ◆ **Broad Creek**
Records (Trap, Raccoon, Trussum, Chipmans), Horseys, Portsville (Tussock)
- ◆ **Choptank River**
Mud Mill

The Department of Natural Resources and Environmental Control is currently evaluating the impact of fish ladders installed since 1995 on several Delaware Bay tributaries. Once evaluations are complete, an anadromous species management plan will be drafted. At that time, recommendations will be made regarding tributaries of the Chesapeake Bay that impede migration of anadromous species.

The American eel is a species of special concern. This species uses the Chesapeake Bay drainage as a nursery and feeding area. Harvested eels never have an opportunity to spawn. There is a black market for elvers (eels less than 6 inches), which are illegally collected and sold in foreign markets. The 6-12 inch juveniles are sold legally as bait and live food in the U.S. and foreign markets. Currently, Delaware has no limit on the number of commercial licenses, no limit on the number of pots allowable per person, and no reporting requirements.

The Nanticoke River system sustains the heaviest fishing pressure of all tidal streams in Delaware. The most sought-after resident freshwater gamefish is the largemouth bass. Many fishing tournaments and man-days of fishing are directed strictly toward this species. The quality of this fishery is largely preserved by the catch-and-release method used by anglers.

Deep Creek and Gravelly Run, tributaries of the Nanticoke River, support extensive Submerged Aquatic Vegetation beds. Shoreline development and the removal of tree and grass buffers cause underwater grasses to die and smother fish eggs within those grasses. Dredging and channelization projects have been proposed for some areas of the Nanticoke watershed, which would severely affect shellfish, plant, and fish species. These kinds of projects need more careful and thorough consideration. Aquatic species can be adversely affected during any life stage.

Accidental or deliberate introduction of *non-native species* can cause major problems to native species, fishing, other forms of water-based recreation, and water quality. There are numerous examples of exotic species in this drainage basin. The Asiatic clam is an exotic species that has altered food chains, decreased diversity, and displaced native mussel species, some of which are rare. The



Striped Bass, commonly called Rockfish

common carp, when it is extremely abundant, can upset the ecological balance in ponds. Zebra mussels are not yet found in Delaware's portion of the Chesapeake Basin, but they are a significant problem throughout the Chesapeake Bay, clogging water systems in large and small boats and out-competing native species for food and habitat. This species is extremely difficult to control so it's important that we prevent them from entering the headwater areas in Delaware. Even some forms of underwater grasses that exist in the Chesapeake Basin are exotic and invasive (like *Hydrilla*). Trussum Pond has had a very severe case of duckweed each summer that contributes to low dissolved oxygen, causing most of the fish to die or move into headwater areas.

Many of Delaware's residents and visitors depend on water for their recreation enjoyment. Fishing, swimming, and boating are popular activities throughout Delaware. Delaware's portion of the Chesapeake Basin includes a dozen publicly-owned ponds and lakes, comprising nearly 700 acres that serve recreational needs. The health of Delaware's waters will affect the recreation potential of these ponds and streams. Delaware's wildlife represents a vital recreational resource base as well. Both hunting and birding depend on the health of the state's natural resources.

In many ways, our living resources reveal more about the state of our environment than any other factor. Our native species are generally the first indicators of change or disruption. They experience first-hand the direct impact of habitat loss, degraded air and water quality, and competition from exotic species.

